ABSTRACT

As a part of this thesis „Influence of external conditions on biomechanical properties of biological materials“ was developed. Influence of duration of storing on biomechanical properties of vascular walls was observed in the concrete. Department of biophysics and physical chemistry Faculty of Pharmacy of Charles University in Hradec Králové puts brain to problems of mechanical properties of biological materials and also man-made materials for many years.

First part is focused on description of current knowledge in area of mechanical properties of biological materials. Further are described different influences on mechanical properties of vascular wall.

In the second practical part are described using materials. We used samples of aorta walls of domestic swine, samples are carved in horizontal and vertical direction. Process of measuring of impulse characteristics of pig’s aorta on dynamical elastometer comes after. In this part are listed relations necessary for calculations of monitored mechanical parameters, which were dynamical modulus and viscous component of samples.

In the last part are summed up results of our measuring.